

Appln. No.: 10/672,735  
Amendment Dated August 2, 2006  
Reply to Office Action of May 5, 2006

99689-00017  
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**Remarks/Arguments:**

Claims 1 – 35 are pending in this application. Claims 36 – 41 have been withdrawn.

35 USC § 112, second paragraph

Claims 1-35 are rejected under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Initially, claims 1-21 and 27-32 were considered indefinite for failure to recite certain steps. Applicant has amended independent claims 1, 7, 15, 27, and 33 in accordance with Examiner's suggestions to include such steps. Regarding claim 12, Applicant respectfully submits that the additional language suggested by the action is already included in the final step of the claim.

Claims 2, 8, 13, 23 and 28 are rejected because they recite the phrase "said second, recombine-free oligonucleotide" which lacks antecedent basis. Applicant has revised the earlier, independent claims to provide antecedent basis by including the phrase "second oligonucleotide is free of recombinase".

Claims 1, 7, 12, 15, 22, 27, 33 and 35 are rejected for including the term "substantially" which is considered a relative term, rendering the claim indefinite. Applicant has deleted the use of the term "substantially" from the noted claims.

In view of the amendments made to the claims, applicant respectfully requests that the rejection of claims 1-35 under 35 USC 112, second paragraph, as being indefinite, be withdrawn.

35 USC § 112, first paragraph

Claim 4 is rejected under 35 USC 112, first paragraph, as failing to comply with the written description requirement. In particular, the Action suggests that the specification does not teach a representative number of sequences of the large genus of RecA muteins. Solely in the interest of expediting prosecution of this application, and not acquiescing to the Action's suggestion, Applicant has deleted the phrase "or muteins thereof" from claim 4. In view of this amendment, Applicant respectfully requests that this rejection be withdrawn.

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35 USC § 102(b) (Sena et al.)

Claims 1, 3-5, 7, 9-12, 14-22, 24-27 and 29-35 are rejected under 35 USC 102(b) as being anticipated by Sena et al. (USPN 5,670,316). In making this rejection, the Action has interpreted the phrase "does not substantially bind" to encompass that some RecA is bound to the second oligonucleotide. Applicant respectfully traverses.

Applicant initially points out that the phrase "does not substantially bind recombinase" has been deleted from the claims and has been replaced with the phrase "free of recombinase". As such, the claims now make it clear that the second oligonucleotide is free of recombinase or, otherwise stated, recombinase-free.

Sena et al. teach a set of two DNA probes having a first and second probe strands, where the first and second probe strand contain complementary sequence to the first and second target sequence strands and contain complementary overlap between the probe strands. Importantly, Sena et al. teach that both probes are coated with RecA protein and are then combined with the duplex DNA which contains the target sequence. In fact, Sena et al. require that both strands are coated with RecA as they specifically state, "Example 6 presents data that confirms that two RecA protein-coated DNA probe strands are required for the production of stable deproteinized probe:target hybridization products on linear target DNA molecule at an internal region of DNA homology." (US 5,670,316, column 12, line 66 – column 13, line 3). Conversely, as now amended, the claims of the present application specifically set forth that the second oligonucleotide is free of recombinase. Support for this amendment can be found in, for example, paragraph [0027] of the present application. Because Sena et al. requires that both oligonucleotides are bound or coated by RecA, Applicant submits that this reference does not anticipate the present invention as claimed.

Therefore, Applicant respectfully requests that the rejection of claims 1, 3-5, 7, 9-12, 14-22, 24-27 and 29-35 under 35 USC 102(b) as being anticipated by Sena et al. be withdrawn.

35 USC § 103(a) (Sena et al. in view of Bryant et al.)

Claims 2, 8, 13, 23 and 28 are rejected under 35 USC 103(a) as being unpatentable over Sena et al. (USPN 5,670,316) in view of Bryant et al. (PNAS 1985, vol. 82, pp. 297-301).

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In particular, the Action states that Sena et al. teaches all elements of the claims except that the second oligonucleotide is recombinase-free. Applicant respectfully traverses.

Bryant et al. is directed to RecA promoted renaturation in the process of homologous recombination. There is no mention nor suggestion in Bryant et al. regarding renaturation using RecA-free renaturation techniques, nor would there be as Bryant et al. is specifically directed to RecA promoted renaturation. As such, there is no motivation to combine these references as Bryant et al. does not supply the missing elements of Sena et al.

To establish a prima facie case of obviousness, three basic criteria must be met. There must be some suggestion or motivation to one of ordinary skill in the art to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Third, the prior art references must teach or suggest all the claim limitations. MPEP § 2142; In re Vaeck, 947 F.2d 488 (Fed Cir 1991).

A prima facie case of obviousness has not been established by the present action because at least the first basic criteria has not been met. In particular, there is no suggestion or motivation that Sena et al. be modified to remove recombinase from one of the DNA probes because recombinase, and in particular, RecA is known to promote renaturation. Moreover, there is no suggestion or motivation to combine the teachings of Sena et al. with those of Bryant et al. to obtain the element missing from Sena et al. as Bryant et al. does not supply such missing element. As described above, Bryant et al. does not address recombinase-free renaturation, and in fact, teaches away from such as concept as it is specifically directed to recombinase promoted renaturation.

Therefore, Applicant respectfully requests that the rejection of claims 2, 8, 13, 23 and 28 under 35 USC 103(a) as being unpatentable over Sena et al. in view of Bryant et al. be withdrawn.

Double Patenting (10/260,150)

Claims 1-5, 7-26 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-67, 72-78 of copending Application No. 10/260,150. Applicant respectfully submits that should copending Application No. 10/260,150 issue with the same claims as set forth presently, applicant would

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be willing to file a terminal disclaimer in compliance with 37 CFR 1.321(c). In this regard, Applicant respectfully requests that this rejection be withdrawn.


Conclusion

The foregoing is believed to be fully responsive to this office action. The embodiments presented are believed to be allowable over the prior art of record. Consideration and allowance of the claims is respectfully requested.

If the Examiner believes that a telephone conference with Applicants' attorneys would be advantageous to the disposition of this case, the Examiner is cordially requested to telephone the undersigned. If the Examiner has any questions in connection with this paper, or otherwise if it would facilitate the examination of this application, please call the undersigned at the telephone number below.

In the event that any fee has been inadvertently overlooked and is required, the Commissioner is hereby authorized to charge any required fee or credit any overpayment to **Deposit Account No. 50-3570.**

Respectfully submitted,



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